

REMARKS

Entry of the amendments to the specification and claims, as amended by way of Annexes to the International Preliminary Examination Report for PCT/DE00/01510, before examination of the application in the U.S. National Phase is respectfully requested.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #420/50547).

Respectfully submitted,



Gary R. Edwards  
Registration No. 31,824

CROWELL & MORING, LLP  
Intellectual Property Group  
P.O. Box 14300  
Washington, DC 20044-4300  
Telephone No.: (202) 624-2500  
Facsimile No.: (202) 628-8844  
GRE:kms  
(CAM 56226.183)

205040-22708660

VERSION WITH MARKINGS TO SHOW CHANGES MADE TO THE  
SPECIFICATION

Please amend the specification as follows:

Page 1, please amend the paragraph which appears after the above  
insertion as follows:

The present invention relates to a semiconducting gas sensor, [in  
accordance with the preamble of Patent Claim 1, a gas sensor system,] and to a  
method of gas analysis using a semiconducting gas sensor.

Page 4, please amend the second full paragraph as follows:

It is thus [the] one object of the present invention to create a  
semiconducting gas sensor and a gas sensor arrangement that is suitable for  
analyzing a gas or gas mixture comprising a number of components, such as, for  
example, ozone and that can be produced simply and cost-effectively.  
Furthermore, a method of gas analysis is to be provided, which will enable the  
analysis of a gas or gas mixture comprising a number of components via  
semiconducting sensors.

Please amend the paragraph bridging pages 4 and 5 as follows:

This and other objects and advantages are achieved by the [The] semiconducting gas sensor [specified in] according to the invention, which comprises a gas-sensitive layer, whose electrical conductivity can be altered via contact with a gas, a heating apparatus for heating the layer to a defined measuring temperature, contact electrodes for measuring the electrical resistance or the electrical conductivity of the gas-sensitive layer, and a chamber in which the gas sensitive layer is positioned. The [, wherein the] chamber can be sealed from the outside;[,] and [wherein] the volume of the chamber is small enough that at least one component of the gas or gas mixture is largely exhausted via conversion, within a predetermined measuring interval, for example on the gas-sensitive layer.

09030122-040502

## ABSTRACT OF THE DISCLOSURE (AMENDED)

A semiconducting gas sensor [(10) with] includes a gas-sensitive layer [(5)], a heater [(3)] for heating the layer to a defined measuring temperature, and contact electrodes [(6a, 6b)] for measuring the electrical resistance of the gas-sensitive layer [(5)] enclosed within a microchamber [(7)], in which the gas-sensitive layer [(5)] is arranged. The chamber can be sealed from the outside, and is constructed so that the chamber volume is small enough to allow at least one component of the gas or gas mixture that is to be analyzed to be at least largely exhausted via conversion on the gas-sensitive layer, within a predetermined measuring interval. With the limited gas store and the conversion of a component of the gas during the measurement process, gases or gas mixtures comprising several components can be analyzed. In this, the measuring signal is reexamined following the conversion of at least one component. Within the chamber, several sensor elements may be arranged with gas-sensitive layers, and may be operated at different temperatures. One gas sensor system, for example, is comprised of at least two semiconducting gas sensors having microchambers [(7)], which are arranged within a system of gas lines and valves, and can be filled individually.